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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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S-E-C-R-E-T

25X1

COUNTRY	Hungary	REPORT	
SUBJECT		DATE DISTR.	19 March 1957
	1. Brief Surveys of the Rubber, Chemical, and Metal Industries	NO. PAGES	1
	2. General Economic Data	REQUIREMENT NO.	RD 25X1
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reports

covering the following subjects:

25X1

- a. The Hungarian Rubber Industry prior to the Disorders of October 1956
- b. Hungarian Chemical Industry
- c. Survey of Metallurgical Industry
- d. Miscellaneous Economic Data on Hungary

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STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC		ORR	X	
(Note: Washington distribution indicated by "X"; Field distribution by "#".)														

INFORMATION REPORT INFORMATION REPORT

COUNTRY: HUNGARY.

SECRET

SUBJECT:

The Hungarian Rubber Industry prior to the Disorders of
October, 1956.

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REMARKS:

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HUNGARYEconomicThe Hungarian Rubber Industry prior to the disorders
of October 1956

1. Throughout 1955, the agreement [] 25X1
for the importation of natural rubber into HUNGARY []
was operating satisfactorily and considerable quantities of natural
rubber were, in fact, imported. In 1956, however, the quantity the
[] were willing to export to HUNGARY was greatly reduced, 25X1
with the result that, in the second half of this year, imports of
natural rubber [] virtually ceased. 25X1
2. This situation induced the Hungarian authorities to send
Hungarian Trade Delegates [] on two separate occasions 25X1
during 1956, with the primary object of obtaining increased supplies
of natural rubber. However, [] proved unyielding and 25X1
these missions consequently proved abortive.
3. Three years ago, the Hungarian Government had already drawn up
a plan for the establishment of a new Hungarian chemical plant, which
was to have provided employment for several thousand Hungarian
workers. This new plant was also to have included a special Department
charged with the task of creating and developing an Hungarian
synthetic rubber industry. This enterprise, as conceived in the
original plan, was to have been established at RAKAMAZ. However,
despite the passage of years, the project still remains in the
planning stage and the work involved in constructing the new plant has
not even been started. Indeed, even prior to the outbreak of the
recent disorders in HUNGARY, it was anticipated that actual construction
work on the new plant would not be initiated within the next two years.
4. No new carbon black plants have recently been put into operation
in HUNGARY. As regards current output, the carbon black manufactured
at the MAORT factory near LISPE is of very bad quality, so that 25X1

SECRET CONTROL

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HUNGARY is obliged to import considerable quantities of active, semi-active and also a small quantity of inactive carbon black. Until 1956, Hungarian imports of carbon black were mainly obtained from ROUMANIA but, in 1956, HUNGARY also began to import carbon black from YUGOSLAVIA. Imports from this quarter began during the second and third quarters of 1956, when about 400 tons of carbon black was obtained from YUGOSLAVIA.

5. In 1956, the Rubber Products Plant in BUDAPEST began to be converted into a rubber factory, producing only heavy technical and industrial rubber products. This arrangement will continue during 1957. The manufacture of all other Hungarian rubber goods (e.g. ebonite, latex products and rubber toys, etc.) will be transferred to the following three alternative rubber factories, which at present exist in HUNGARY:-

(i) NAGETETENY Rubber Factory.

(ii) MŰSZAKI GUMIGYAR (Mechanical Rubber Factory)

UJHEGYI UT

BUDAPEST - KÖBANYA

(iii) AUTOKEMIA Rubber Factory,

SVETENAI UTCA

BUDAPEST.

6. There have been no new rubber plants constructed in HUNGARY since 1955.

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COUNTRY:

HUNGARY.

SECRET

SUBJECT:

Hungarian Chemical Industry.

25X1

[Redacted Content]

REMARKS:

SECRETHUNGARYEconomic/ScientificHUNGARIAN CHEMICAL INDUSTRY

1. Although most of the buildings have been completed and the plant already installed, the chemical factory at KAZINCBARCIKA is not yet in full production. =One of the main difficulties appears to be the fixing of norms satisfactory to both workers and management. Until October, 1956, production was at only an estimated 15% of capacity. The factory produces oxygen and artificial fertiliser.

2. A large factory is being constructed near TISZA-PALKONYA, about 70 kms N.E. of SZOLNOK. When completed, it will manufacture P.V.C. with the use of natural gas imported from ROUMANIA.

3. A new chemical plant has been built at SAJOBABONY. Work was started in 1951 and all construction work is now completed, but the factory is not yet in full production. It is designed to produce :-

- a. Mustard gas (in production)
- b. Choking or nerve gases (in production)
- c. (not yet in production)
- d. Rubber (not yet in production).

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4. At present the factory employs a little over 2,000

contd/.....people, but....

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people, but when it is in full production, it will employ over 3,000. By-products of the factory will go to the BORSED Chemical Combine at KAZINCBARCIKA for the manufacture of fertilisers.

5. Considerable difficulty has been met in the construction of a turboelectric power plant to supply the factory. A number of dams were built, but eventually the project was abandoned and a conventional steam turbine power station was installed, fired by brown coal, and was served by a single turbine/generator. This also proved a failure, and the factory now imports its power from CZECHOSLOVAKIA. The furnaces, built to serve the steam turbine, are being used to produce steam for various chemical processes in the factory and heating.

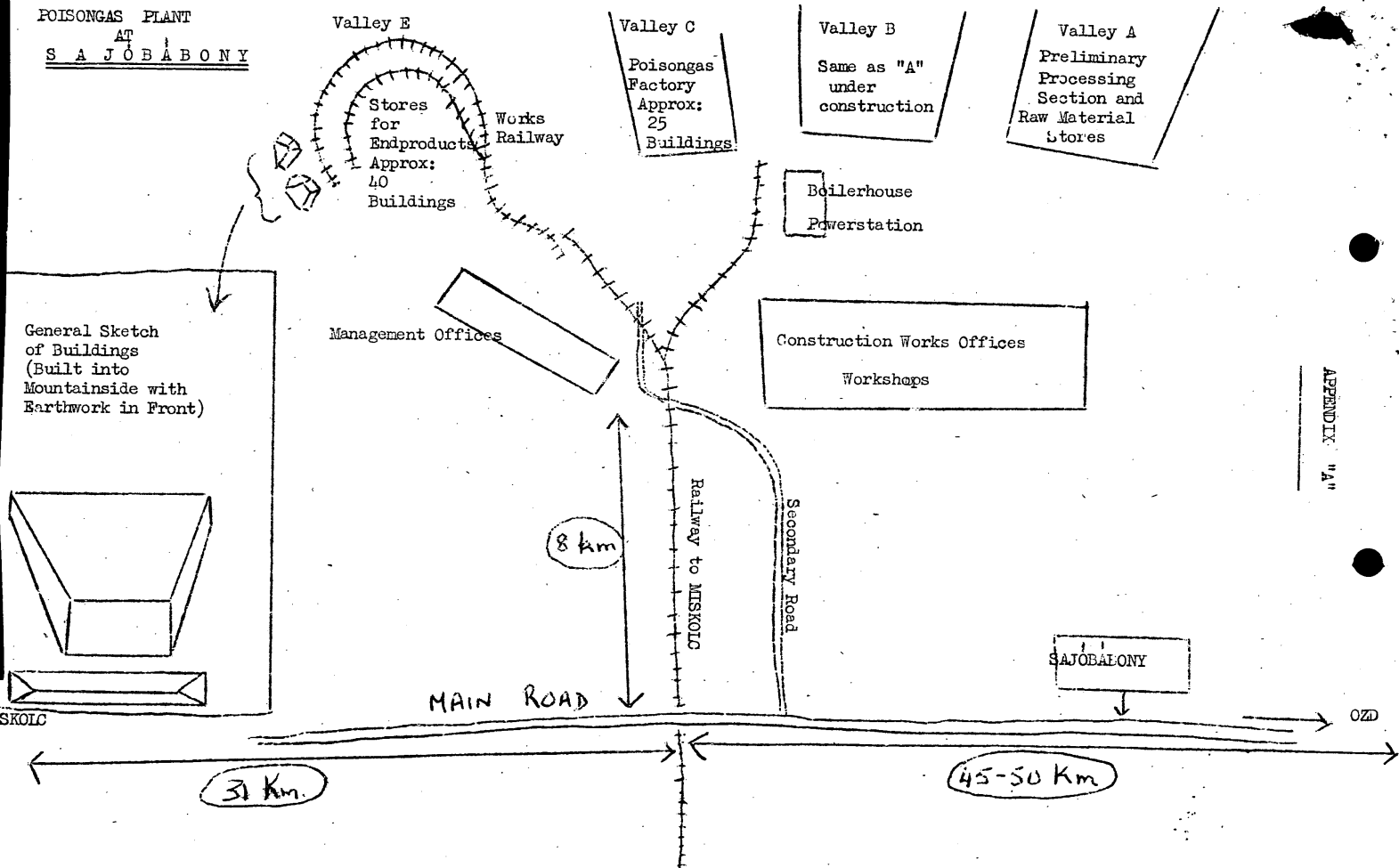
6. Attached at Appendix 'A' is a sketch plan of the factory lay-out. All the buildings are arranged in valleys and actually built into the hillsides with earthworks thrown up in front of the entrances.

7. At BALATON FUZFOS, a sister factory of SAJOBABONY is mainly employed on the production of high explosives, but also produces insulating materials such as glass wool.

8. A new explosives factory is under construction at DUNAPANTELE and known by the cover name of SZAIMACELUZOZE. It is planned to start production there in 1957 and approximately 400 workers will be employed.

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POISONGAS PLANT
AT
S A J O B A B O N Y



COUNTRY: HUNGARY.

SECRET

SUBJECT:

Survey of Metallurgical Industry.

25X1

REMARKS:

HUNGARYEconomic.Survey of Metallurgical Industry**SECRET**I MISCELLANEOUS ECONOMIC INFORMATION.

During the revolt the workers were paid up to the 4th November when the Government decreed that only those reporting to factories could draw wages. Consequently the workers reported for duty, drew their pay and did no work. Throughout the revolt the food industry kept working. The Trade Unions played no part and had no influence in the revolt as they were entirely Communist controlled.

At present Hungary is not short of technicians. A large scale training programme was initiated in 1949 and now there is a surplus of skilled personnel in some fields. In 1938-1939 there were approximately 2500 trainees and the present figure is roughly 10,000 and in the metallurgical industry for example, many of the top men are unskilled (appointed by the Party) with a lot of trained technicians holding junior posts. For these there is little prospect of immediate promotion.

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[redacted] 100% of the metallurgical coke consumed in Hungary has to be imported. It is principally for this reason that steel produced in Hungary and valued at 1 forint costs 1.28 forints to make. [redacted] this is an official figure. [redacted]

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The shortage of electric power is a result of the scarcity of coal and oil, and the inadequate rate of construction of new power stations during the first Five Year Plan. In particular the rapid growth of the machine tool industry outstripped supplies of materials and of power.

Electric steel is made at CSEPEL, KOBANYA (the old Hubert and Sigmund works), BORSADNADOSD (which makes transformer and dynamo steel) and DIOSGYOR.

Tungsten Carbide was first made in the Hubert Sigmund works KOBANYA (tool tip production there has now stopped and the works is at present making high alloy steels and permanent magnets). Some time after 1954 a new factory was founded for Tungsten Carbide production using imported Welfram. This new plant is entirely for sintered carbide tools, drawing dies and cutting tools etc.

II ALUMINIUM.(a) BAUXITE.

[redacted] on the subject of Bauxite mining, 25X1
[redacted] the main centres are at TAPOLCA, NYIRAD, GANT and ISZKAZENTGYORGY. The general quality of Bauxite is decreasing and the Silica content is increasing. During the second Five Year Plan the combination process for the treatment of these ores is to be introduced in some works.

(b) ALUMINA.

Only three plants are manufacturing Alumina, these are at MAGYAROVAR, AJKA and ALMASFUZITO.

(c) CRYOLITE.

The greater part of Hungarian requirements is imported, mostly from the U.S.S.R. attempts have been made to
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Cryolite in Hungary [REDACTED]

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(d) ELECTRODES.

These are imported from the U.S.S.R. though attempts to manufacture them in Hungary from imported material are being carried out.

(e) RED MUD.

The extraction of Titanium and Vanadium from Red Mud is in its very early stages. The extraction of Titanium has been carried out at Budapest University by Professor GELLEMOT but the amount produced so far has only been 2 Kilograms. The extraction of Vanadium is carried out at Magyarovar. The use of Mud as an iron ore has been much discussed but little has been done.

(f) ALUMINIUM.

[REDACTED] 1951 production amounted to 21,000 tons. The three plants producing Aluminium Ingots are TATABANYA, AJKA and INOTA:- 25X1

(i) TATABANYA

At Tatabanya the old electrolysis shops are housed in two buildings: the current used is 20-25,000 amps. The shops are equipped with very good German rectifiers installed during World War II (no further details). A new electrolysis unit was opened in about 1949-1950. It is parallel, but to the East of the other two and contains four rows of pots. The whole shop is wider than either of the old ones, is about the same length and contains bigger cells using an amperage of 50,000. [REDACTED] production [REDACTED] between 11-12,000 tons a year. Some super-pure aluminium is made for condenser coils and chemical equipment. 25X1

(ii) AJKA

its production [REDACTED] about the same as TATABANYA. 25X1

(iii) INOTA

These works came into production about 1954 but experienced many difficulties, the rectifiers supplied by the Czechs broke down at an early stage. The generators at the INOTA power station broke down in 1954 and were out of action for three months. [REDACTED]

[REDACTED] the cells are very large and work at 50,000 amps. 25X1

The CSEPEL Aluminium works was demolished in 1947. Under the Five Year Plan expansion of Aluminium production is to be under taken at INOTA alone. No new plans are envisaged.

III PROCESSING OF NON FERROUS METALS IN HUNGARY

[REDACTED] approximately 20,000 tons of Aluminium is worked in Hungary, the remainder being exported to Poland (in exchange for zinc), to the U.S.S.R., to Czechoslovakia, and some small amounts to other countries as virgin metal. 25X1

SZEKESFERHERVAR Light Metals Works (see Sketches I and II).

[REDACTED] annual production at 8,000 tons of /..... 25X1

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sheet extrusions and wire, mainly in pure aluminium but about 5% in aluminium alloys. Much of the pure aluminium sheet is sent to the U.S.S.R.

The equipment consists of Rolling Mills an Extrusion Press and Drawing Benches. The principal unit is a 2-High hot mill non-reversing, made by SKODA since the war with a barrel length of between 2,000-2,500 mm: it is equipped with lifting tables and rolls sheets $\frac{1}{4}$ " thick. Four cold mills are attached to the same drive, two are 3-High mills by SKODA and two are 2-High mills. Situated to one side of these mills is another set of cold mills, 2-High, with two or three stands by ACHENBACHER: all these mills roll sheets. In the same bay are two 4-High mills built by SKODA and originally destined for U.S.S.R. which roll strip of a maximum width of 200 mm. and a minimum thickness of 0.1 mm.

[redacted] the furnaces were designed for DURALUMIN for aircraft during the war.

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Adjoining the rolling mill is a foundry where ingots from other works are remelted and alloyed where necessary. The equipment consists of one induction furnace, two or three electric melting furnaces and four semi-continuous casting furnaces for casting ingots to a size suitable for rolling or extruding.

The extrusion shop contains one press of 2,500 tons, several drawing benches and wire drawing machines. The last are not of a great capacity. This shop manufactures sections, tubes for cable sheathing, and thick wire of approximately 2 mm. in diameter.

The small forging shop near the main offices manufactured ammunition caps of approximately $1\frac{1}{2}$ " in diameter but the size of the projectile was unknown. Production was very small.

The alloys made at this works were as follows:-

- (i) DURAL Types containing 4% copper, $\frac{1}{2}\%$ or 1% magnesium, and the balance aluminium, to Russian specifications. These alloys were not, [redacted] strong enough for aircraft and were used for aircraft repairs only. 25X1
- (ii) Aluminium-Magnesium containing 4% Magnesium and used in shipbuilding.
- (iii) Aluminium-Magnesium-Silicon a corrosion resistant alloy.
- (iv) Aluminium-Manganese used for structural purposes o.g. buses and trains. 25X1

[redacted] the copper used was imported [redacted] the Magnesium and Silicon came from U.S.S.R, the Manganese from U.S.S.R. [redacted] Some Silico-Aluminium was made in 1955 at TATABANYA but it was not of good quality as it contained too much iron.

KOBANYA

The probable location of this works is 47°28'54"N, 19°07'11"E. This works has ingot casting equipment which is also used for adding alloying materials when necessary; it comprises one gas fired furnace, one electric furnace and one semi-continuous casting machine.

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In the Rolling Mill there is a 2-High hot breakdown mill with a barrel length of about 1,250 mm. and a roll diameter of 700 mm. Production is roughly 500 to 600 tons a month. There are four or five cold rolling mills, 2-High of German origin and installed at the beginning of World War I. These produce sheet. There are two more 2-High mills for rolling narrow strip, and they produce about 500 tons per month.

A hydraulic extrusion press exerting 1,500 tons pressure is used for sections and some tubes.

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There are a few drawing benches and wire-drawing machines, the latter producing medium wire.

The Robertson foil mill has only recently been installed and is yet yet working well. It consists of two 2-High mills. There is also one 4-High mill built by SKODA and designed for tinfoil but at present being used to roll down the aluminium foil from 4 mm. in thickness to 0.45 mm.

VAC Non-Ferrous Metal Rolling Mill.

This works does not possess a foundry and therefore cannot alloy ingots. It makes only zinc and pure Aluminium sheets. The amount of zinc rolled is not known but it is very small and is used only for batteries and printing purposes. The production of aluminium sheet is about 100 to 150 tons per month. The works has two 2-High cold rolling mills both old and steam driven. A new shop has been built for permalloy, ferrite and sintered cores for radio coils; eventually the plant will work solely for the communications industry.

NAGYTETENY "Metallochemia" Works.

This plant is located at 47°23'55"N, 18°58'20"E and produces metal salts, FeSO₄, lithopone, red lead, zinc oxide and treats non-ferrous scrap, chiefly copper-based scrap.

For processing scrap the works has two water-jacket furnaces of medium size, two converters of the Pierce-Smith type, two oil fired furnaces with flat circular hearths and capacities of one and three tons respectively. Primary scrap of 45% copper content is supplied by CSEPEL; other non-ferrous scrap contaminated and of mixed content is drawn from all sources.

The poor scrap is treated in the water-jacket furnaces to obtain black copper 80 to 85% copper.

This black copper together with the better scrap is then treated in the converters and the blister is cast into anodes and sent to CSEPEL. All the alloying materials - o.g. Tin, Zinc, etc are collected in a Bag house and from this the elements are recovered and used chiefly for undercoat paints.

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Some ore from RACSK, the only copper deposit in Hungary, is also processed in the water-jacket furnaces. This is used to make anodes and is also sent to CSEPEL where the gold and silver in it is recovered.

Copper based scrap which is fairly clean is separated and cast directly into bars of brass and Rohguss (for bearings) and is sent to other works. Tin and leadbase alloy scrap is also treated.

AKER (Old Name).

Location not known but between Budapest and Ujpest. A little works with oil fired furnaces to process tin and leadbase scrap and accumulator lead.

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REZHENGEMU Rolling Mills.

Located in PARKANY Ut. (No map available).

An old works from CHAUDOIR (France) built perhaps in World War I or thereabouts; it was an old rival of the CSEPEL works.

Reconstructed after World War II to make ammunition. It has a small ingot casting shop with three or four low frequency induction furnaces (AJAX-WYATT) for casting copper-based ingots and rolling mills for sheets (hot and cold), narrow strip and wire. The sheet mills have two or three stands and also roll material for hot strip. The wire mill has five stands. Strip is rolled on several 2-High mills. Drawing facilities exist for drawing wire and rod. In the new Five Year Plan several punching and drawing machines are to be installed. Output is not known.

MAGYAR KABELGYAR (or BUDAPEST KABELGYAR).
(formerly PELTON-GUILLAUME Works).

This works is located at 47°27'28"N, 19°03'13"E and produces cables and wire for the Electrical Industry for Telecommunications. Lead and aluminium-clad cables are also produced. In 1955 there was built an ingot casting shop with between two and four low frequency induction furnaces, a new rolling mill for rolling copper-based and aluminium based wire, and a 1,500 tons extrusion press of Krupp type to use either the direct or indirect method.

MAGYAROVAR.

FEMFELDOLGOZO works for copper-based metals.

there are some coko-fired melting crucibles, an extrusion press and stamping presses. 25X1

MAGYAR-PENZVERŐ. The Mint.

the exact location is either 47°28'43"N, 19°05'40"E or 47°28'40"N, 19°05'53"E. 25X1
It contains a small foundry with oil fired crucible furnaces and small rolling mills for all metals e.g. nickel, cupro-nickel, bronze and aluminium for coins. Before the war it made coinage for Turkey and the Middle East. Since the war it has made badges, cheap jewellery etc. All fine jewellers who cannot obtain gold for their private businesses now work here: a lot of jewellery (e.g. gold and precious jewellery) is made for export. No gold jewellery can be bought in Hungary without an official permit and no private man may hold at any time more than 500 grams of gold. The price of gold in registered shops is 100 to 150 forints per gram, when selling gold to one of the few registered purchasing shops the maximum price obtainable is only 20 to 25 forints per gram.

IV. STEEL FABRICATION.BORSODNADASD Sheet Mill.

This works possess one electric arc furnace and one old rolling mill with eight or ten 2-High stands for making tin plates. The Hot Dipping process is used and the tin is imported from Malaya (Banka Billiton). Transformer and Dynamo sheet is also rolled with a High Silicon content (4% and 1½ to 2% respectively).

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LORINC Sheet Mill.

This mill uses steel ingots and slabs from DIOSGYOR. The rolling mill itself was formerly located in DIOSGYOR: the equipment consists of two furnaces for heating the ingots and one 3-High rolling mills. The barrel length is 3,500 mm. the diameters of the rolls are 900 mm., 700 mm. and 900 mm. The mill rolls thick sheets and plates for shipbuilding and locomotives and output is roughly 100,000 tons per annum. The sheets are normally between 8 and 40 mm. in thickness but thicker material can be rolled.

SALGOTARJAN.

There is no steel making here but the plant manufactures forgings especially for agricultural machinery and has wire drawing and tempering equipment for piano wire and crane cables. There is a strip rolling mill of several stands and one new DEMAG stand, 4-High, with a barrel length of 400 mm. The works also has the biggest nail shop in the country.

MISKOLC.

The "December 6th" works in MISKOLC makes steel wire and cables. No further details.

OZD.

[redacted] The blast furnaces were old and small and there were between two and four of them. There were many, perhaps 12, gas fired open hearth furnaces which had capacities of only 30 or 40 tons. In the rolling mill department there was a steam driven blooming mill, a 2 or 3-High plate mill, a 2-High heavy section mill with between three and five stands, a wire rolling mill with four or five continuous roughing stands and seven finishing stands, a 3-High merchant mill with two or three stands and a double-duo mill for narrow strip.

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DIOSGYOR Lenin Metallurgical Works (see overlay and sketches V and VI).

25X1

[redacted] the furnaces [redacted] have been one 700 cubic metre blast furnace, one small blast furnace making ferro-manganese and two small old furnaces of about 300 cubic metres each. In the open hearth department there were several open hearth furnaces, one mixer and one modern tilting open hearth furnace of 185 tons capacity.

25X1

In the old rolling mill department there was one old blooming mill with a 10,000 h.p. drive (ILGNER set) rolling ingots of a maximum weight of 4½ tons; the roll diameters were approximately 1,000 mm. There was also a 3-High billet mill and a four stand 2-High reversing mill for rails and heavy sections. The new mill (see Sketch VI) contains a SCHLOEMANN mill comprising one 3-High roughing stand and ten other stands of which four have vertical rolls. Seven of the stands are continuous and each stand is driven by a separate DC motor.

V. MISCELLANEOUS METALLURGICAL INFORMATION.MANGANESE.

Manganese is mined at URKUT and EPLENY, the former being the more important source. Research into these ores was done at Miskolc University. There is at present no production

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of Manganese metal in Hungary but ferro-manganese was made in DIOSGYOR in the small old blast furnace. Most of the Manganese requirements are met by imports.

COPPER.

The only significant deposit of copper ore in Hungary is at RACSK and production is small. Much of the scrap used is imported. In 1951 Hungary's consumption of copper amounted to 10,000 tons. Copper bearing scrap and clean copper scrap is imported from all possible sources [redacted] and the greatest part of the pure metal imported is in the form of wirebars. In 1947-1948 much blister copper was imported from Yugoslavia, but this stopped after the break with TITO; this blister copper was of a very high grade, 99.3% copper, and the electrolytic slime contained valuable amounts of gold and silver. This slime was returned to the Yugoslavs as part payment, for them to recover the precious metals. 25X1

LEAD.

All lead is imported but some scrap is refined in Metallochemia and at AKER.

ZINC.

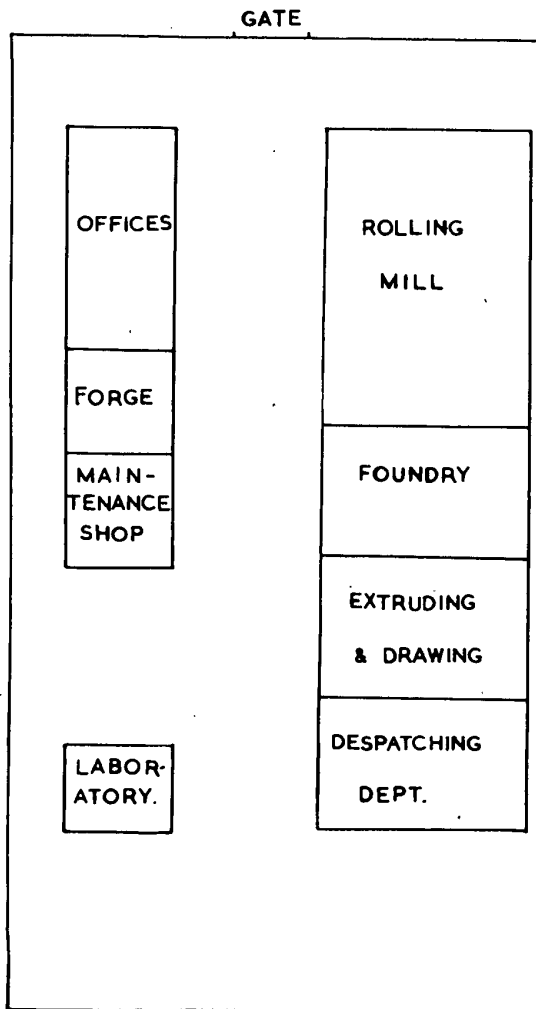
All zinc is imported but scrap is treated in Metallochemia for use in paints. [redacted] lead and zinc deposits in GYONGOSOROSZI but [redacted] only ore dressing facilities are to be built up. 25X1

TUNGSTEN.

Tungsten wire is made in EGYESULT IZZO (formerly TUNGSRAM) the process used is to sinter the Tungsten then to hammer and to roll it.

SZEKESFERHERVAR

SKETCH I



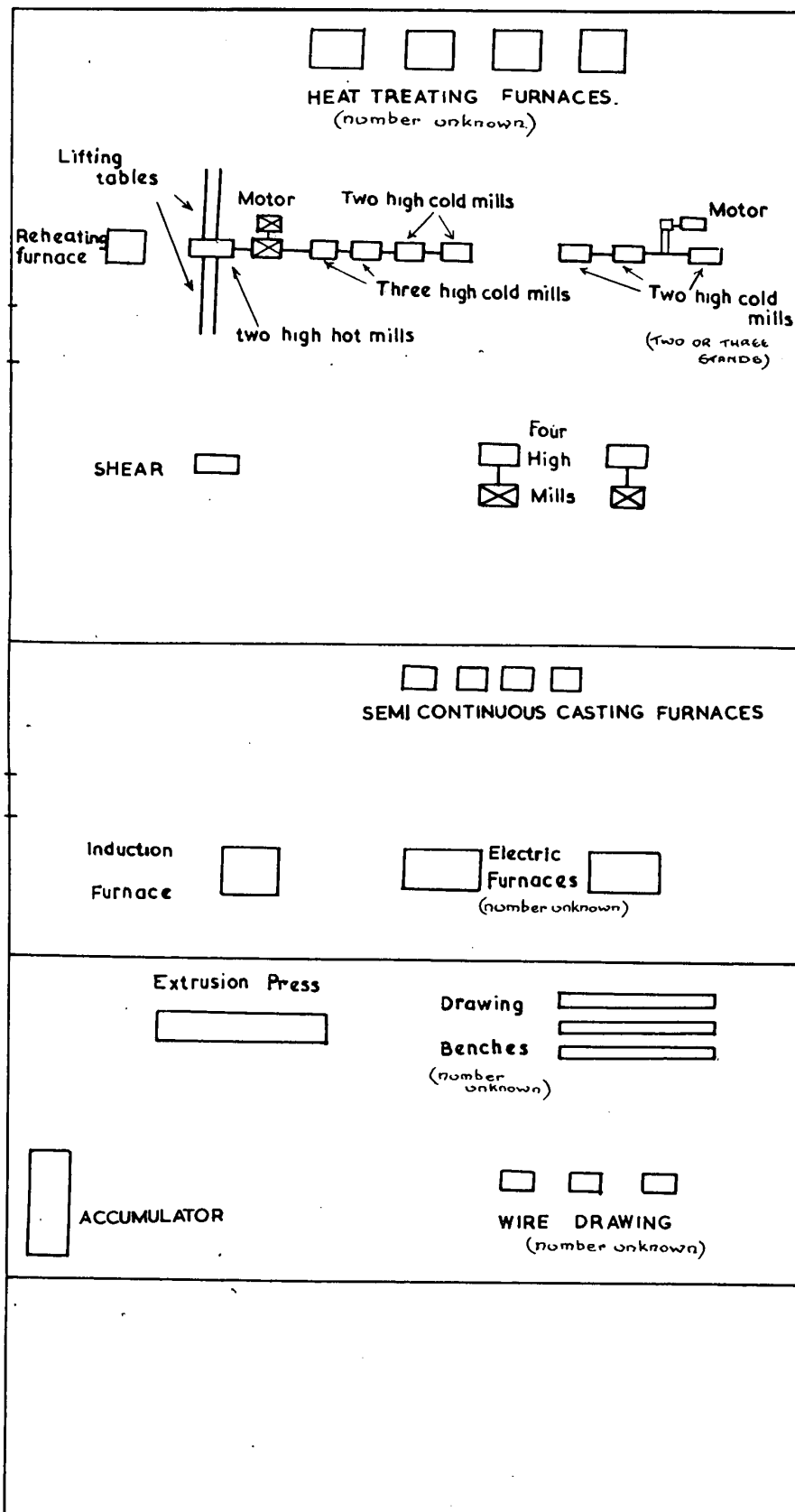
SKETCH OF WORKS LAYOUT

(NOT TO SCALE)

SIZEKE SFERHERVAR

SKETCH II

SKETCH OF LAYOUT OF ROLLING MILL, FOUNDRY, EXTRUDING
& DRAWING SHOPS. (NOT TO SCALE).

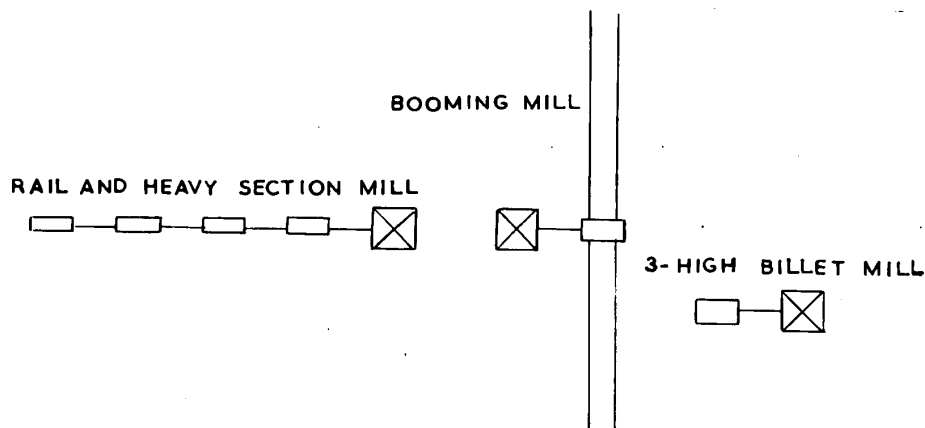


SKETCH V

SKETCH OF LAYOUT OF MILLS IN OLD ROLLING MILL

EXACT ALIGNMENT OF MILLS NOT KNOWN,

BUT BELIEVED E-W

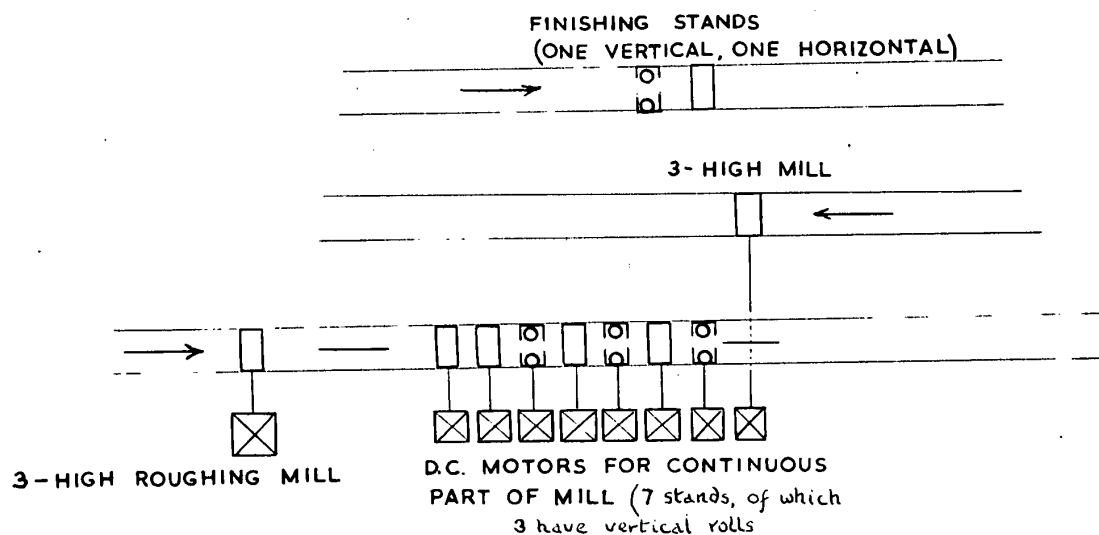


NOT TO SCALE

SKETCH VI

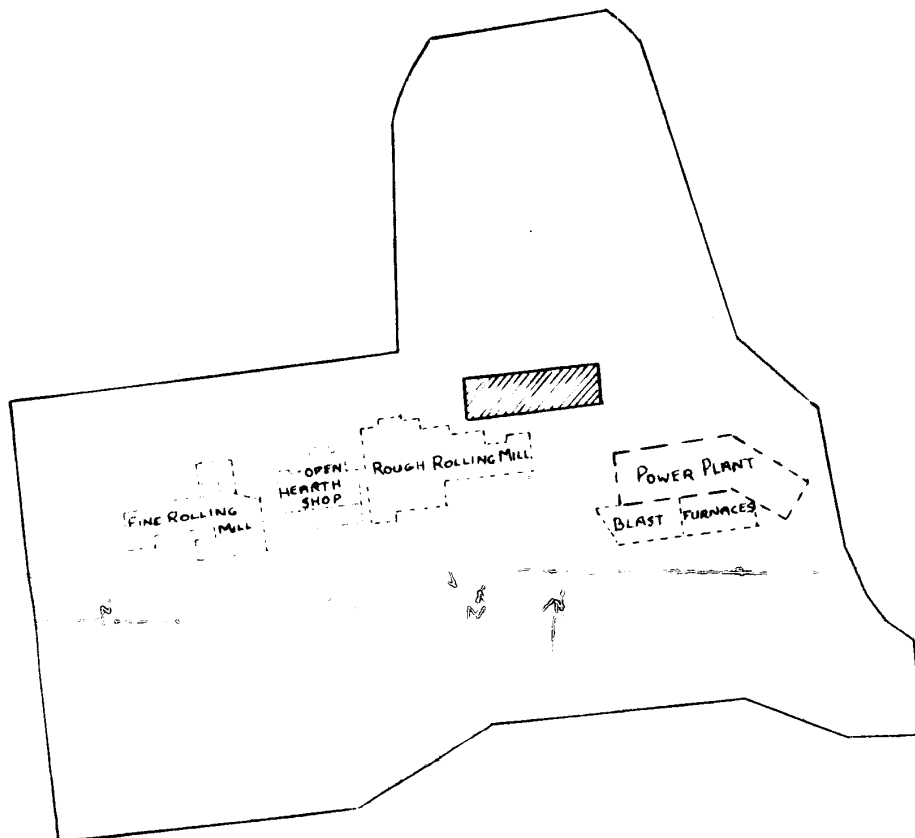
SKETCH OF LAYOUT OF NEW SCHLOEMANN ROLLING MILL

ALIGNMENT IS E - W



NOT TO SCALE

OVERLAY TO MOSAIC 0232-0241-IOMA OF
DIOSGYOR STEELWORKS



SCALE 1:10,000

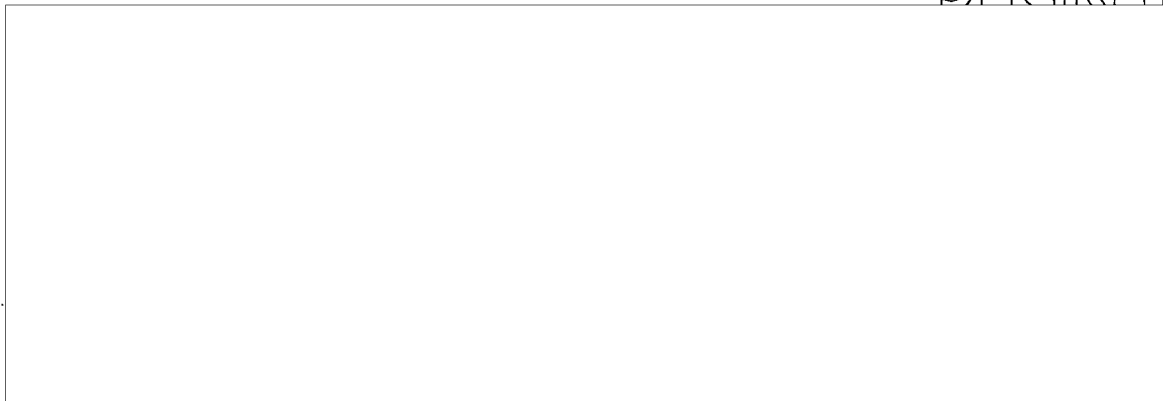
LOCATION OF NEW ROLLING MILL SHOWN AS SHADED RECTANGLE

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SUBJECT: **Miscellaneous economic data on Hungary**

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SECRETHUNGARYEconomicMiscellaneous economic data on Hungary

1. The raw materials most urgently required by Hungary are nickel, chrome, copper, insulating materials, chemicals for plastics, and transformer metal sheeting (Blech). Copper is in such short supply that Hungary has been forced to import it in the form of fine wire and then melt it down for processing as required.
2. The largest single economic contribution made by Hungary to Russia has been the export to Russia of over half a million tons of bauxite annually. A large amount of aluminium processing has also been carried out by Hungary on behalf of Russia, for which purpose large quantities of electricity obtained from fuels of low thermal efficiency have been used.
3. Hungarian annual production of electricity has been running at 4 milliard K.Wh., with power stations' annual running time at 5,000 hours.
4. A new power station of 15 M.W. capacity is under construction at PECS (PUNFKIRCHEN).
5. Hungary obtained [] a contract to deliver a power station costing 8 million dollars (the next lowest tender was 11 million dollars), to be erected in 18 months. []
6. During the past 10 years Hungary has built about 150 ships for Russia. Most of them were river craft, floating cranes and small sea-going vessels. The diesel engines were manufactured by GANZ Engineering Works.
7. GANZ manufactures transformers up to 50 M.W. but losses are high because of the poor quality of the copper and transformer sheeting metal used. GANZ also turns out diesel engines of up to 2,000 h.p.

/and...

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and steam turbines of up to 30 M.W. Russia sent to GANZ plans for the manufacture of one set of 50 M.W.

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8. The TUNGSRAM factory had difficulty in obtaining wolfram ore but finally obtained a shipment from China, which was of low quality.

9. Following the visit of Hungarian trade delegations to China, Hungary delivered to China a large telephone exchange and several small water power stations.

10. The Hungarian Standards Office received copies of most British Standards publications but was unwilling to send similar Hungarian publications to Britain since these would have betrayed the low quality of workmanship.

11. Television sets have been manufactured by the ORION factory, and a few sets have been on view in shop windows at 5,600 forints without the aerial. (It is not known whether these sets were in fact for sale). A trial television transmittor was set up near BUDAPEST and transmissions were made for approximately one hour in the evening. The television set valves were made by TUNGSRAM.

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